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10/542,392

07/15/2005

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EXAMINER

HAYES, KRISTEN C

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/542,392	<b>Applicant(s)</b> MORI ET AL.	
	<b>Examiner</b> KRISTEN C. HAYES	<b>Art Unit</b> 3643	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is unknown what the biologically active substance is, or what it could be. The possibilities of what it could be are not mentioned in the original specification.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Regarding claims 2-5, the awkward wording of the claim makes the claim difficult to understand. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. It is unclear as to if further structure is being added by the current claim language.

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6. Claim 4 includes the limitation "(the opposite of the film side facing water)". The parentheses make it unclear as to whether the limitation is apart of the claim. The parentheses should be deleted and the phrase added to the main body of the claim.

7. Claim 6 recites the limitation "the root" in line 2. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 13 recites the limitation "the film of another material" in line 1. There is insufficient antecedent basis for this limitation in the claim

9. Claim element "supply means for allowing water containing a fertilizer component or a biologically active substance to be contacted with the plant body through at least the film" is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. There is no mention by the original disclosure as to what the "supply means" is.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

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(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-3 and 9-15 are rejected under 35 U.S.C. 102(a) as being anticipated by Tonkin US Patent 6,615,537.

12. Regarding claim 1, Tonkin discloses a plant cultivating device (Tonkin, Fig: 2) having a shape capable of receiving a plant body (4), the device comprising a film (5) capable of being substantially integrated with the root of the plant body and supply means (such as 7 or the water bottle of Figure 3)..

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13. Regarding claim 2, Tonkin discloses a device with the limitations of claim 1 further characterized by the film showing a difference of less than 4.5 dS/m in the electric conductivity in a water/saline solution system at the time four days after the start of measurement (Tonkin, column 4: lines 49-51...60-61, column 7: lines 39-40). Tonkin discloses film of a polyvinyl alcohol with a thickness of 40 $\mu$ m, which is one of the same films described in the specification of the instant application as showing a difference of less than 4.5 dS/m in electric conductivity in a water/saline solution system at the time four days after the start of measurement. The film disclosed by Tonkin meets the limitations of the claim.

14. Regarding claim 3, Tonkin discloses a device with the limitations of claim 1 further characterized by the film showing a difference of 4 or less in concentration of a water/glucose solution system at the time of three days after the start of measurement (Tonkin, column 4: lines 49-51...60-61, column 7: lines 39-40). Tonkin discloses film of a polyvinyl alcohol with a thickness of 40 $\mu$ m, which is one of the same films described in the specification of the instant application as showing a difference of less than 4 in electric conductivity in a water/glucose solution system at the time four days after the start of measurement is 4 or less.

15. Regarding claim 9, Tonkin further discloses the film comprising a hydrophilic film (Tonkin, abstract).

16. Regarding claim 10, Tonkin further discloses the hydrophilic film being polyvinyl alcohol (Tonkin, column 4: line 61).

17. Regarding claim 11, Tonkin further discloses the film having a thickness of 10 microns (Tonkin, column 7: lines 39-40).

18. Regarding claim 12, Tonkin further discloses the film is added onto a film of another material (Tonkin, column 5: line 65-column 6: line 5). Not disclosed is the film being laminated to the other film. However, this is considered a product by process limitation. The product in

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such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe*, USP 964, 966.

19. Regarding claim 13, Tonkin further discloses the film of another material comprising an unwoven polyethylene fabric having communicating pores (Tonkin, column 5: line 65-column 6: line 5).

20. Regarding claim 14, Tonkin further discloses the film comprising a non-porous film (Tonkin, abstract).

21. Regarding claim 15, Tonkin further discloses the film comprising a porous film (Tonkin, abstract).

22. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Mori EP 1 203 525.

23. Regarding claim 1, Mori discloses a plant-cultivating device (1) having a shape capable of receiving a plant body (5) to be cultivated, the device comprising a film (4) capable of being substantially integrated with the root of the plant body and supply means (such as 7).

24. Claims 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Wright EP Application 0 268 556.

25. Regarding claim 7, Wright discloses a plant-cultivating method, comprising providing a plant-cultivating device (11) having a shape capable of receiving a plant (17) body to be cultivated, and comprising, as at least a portion thereof, a film (10) capable of being substantially integrated with the root of the plant body (Wright, column 8: lines 18-25); disposing the plant body in the device; and cultivating the plant body while allowing water containing a fertilizer component or a biologically active substance to be contacted with the plant body through at least the film (Wright, column 2: lines 10-32).

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26. Regarding claim 8, Wright discloses a method with the limitations of claim 7 wherein a plant retaining support (16, 110) is disposed between the plant body and the film (Wright, column 7: lines 3-4, 8-9, 13-15).

***Claim Rejections - 35 USC § 103***

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

28. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tonkin US Patent 6,615,537.

29. Regarding claim 4, Tonkin discloses a device with the limitations of claim 1 further characterized by the film showing a peeling strength of 10g or more with respect to the root of the plant body (Tonkin, column 4: lines 49-51...60-61, column 7: lines 39-40). Tonkin discloses film of a polyvinyl alcohol with a thickness of 40µm, which is one of the same films described in the specification of the application as showing a peeling strength of 10g or more with respect to the root of the plant body at the time of day 35 at the inside of the film. Tonkin does not explicitly state that the peeling strength of the film is 10g or more, however, it would have been obvious to use such a film. The more force required to remove the film from the roots of the plant, the more likely that the film integrated with the roots. If a film with a peeling strength less than 10g might not fully integrate with the plant. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Tonkin with a film showing a peeling strength of 10g or more to ensure that the film integrated with the roots of the plant.



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30. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori EP 1 203 525.

31. Regarding claim 5, Mori discloses a device with the limitations of claim 1 further characterized by the film having a water impermeability of 30cm or more (Mori, page 5: lines 30, page 12: lines 52-53). Mori does not disclose the film having a water impermeability of 10cm or more. Lowering the pressure at which the film was permeable would ensure that fluids at a low pressure could pass through the film. Substances or impurities that could only pass through the film at higher pressures would not pass, allowing the film to act as a filter. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the film of Mori with a film having a water impermeability of 10cm or more to enable the film to act as a filter.

32. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori EP 1 203 525 in view of Wright EP Application 0 268 556.

33. Regarding claim 6, Mori discloses a plant body (5) and a film (4) comprising a nonporous hydrophilic film (Mori, ¶0042). Not disclosed is the film being substantially integrated with the root of the plant body. Wright discloses a plant film integrate comprising a plant body (17) and a film (10) which has substantially been integrated with the root of the plant body (Wright, column 8: lines 18-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to integrate the plant body roots of Mori with the film, as taught by Wright to increase the strength and durability of the roots.

### ***Response to Arguments***

34. Applicant's arguments filed with respect to the claims have been fully considered but they are not persuasive.

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35. The examiner maintains the rejection of claims 2-5 under 35 U.S.C. 112, second paragraph.

36. The applicant argues that Tonkin and Mori do not disclose water containing a fertilizer component or a biologically active substance. This limitation is considered a functional limitation. Tonkin and Mori disclose the positively claimed structure of the supply means. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. A specific amount of fertilizer or biologically active substance is not disclosed. An amount small enough to be dissolved into the water could then pass through the membrane with the water vapor. Furthermore, Tonkin and Mori also describe porous membranes as well as nonporous membranes. If the amount of fertilizer or biologically active substance was such that it could not dissolve into the water and pass through the membrane with the water vapor then it could pass through the membrane of the porous membrane. Furthermore, the fertilizer is not claimed as being in contact with the plant body through the film, only the water which contains fertilizer is being claimed as having contact with the plant body.

37. Claim 7 is still anticipated by Wright. As to the film of Wright not being able to allow fertilizer to contact the body of the plant, Wright is still seen as disclosing this function. It is unclear what the applicant is suggesting by highlighting the fact that the films of Mori and Tonkin are not meant to pass fertilizer. Wright is used alone, as a 35 USC 102 rejection, not in combination with Mori or Tonkin. The films used by Mori and Tonkin are not disclosed as being the same film used by Wright.

38. The affidavit under 37 CFR 1.132 filed 04/03/2009 is insufficient to overcome the rejection of claims 1, 6 and 7 based upon 35 USC 102 and 103 as set forth in the last Office

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action because: the affidavit cannot overcome a rejection under 35 USC 102. As to the 35 USC 103 rejection of claim 6, Mori and Wright is used to teach the film being substantially integrated with the root of the plant body, not the film being able to allow water containing fertilizer to contact a plant body. It is also unknown what the affidavit is attempting to prove.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTEN C. HAYES whose telephone number is (571)270-3093. The examiner can normally be reached on Monday-Thursday, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571)272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCH  
22 June 2009

/Timothy D. Collins/  
Primary Examiner, Art Unit 3643  
For Peter Poon